

AMENDMENT UNDER 37 C.F.R. § 1.111

U.S. Application No. 09/957,030

Q66254

REMARKS

Upon entry of the Amendment which is respectfully requested, Claims 1-17 will be pending in the application.

Reconsideration and review of the claims on the merits are respectfully requested.

Formal Matters

Applicants appreciate that the Examiner has acknowledged Applicants' claim for foreign priority. However, Applicants note that the Examiner did not confirm receipt of the certified copy of the priority document on the Form PTO-326. Applicants kindly request that the Examiner acknowledge the same in the next Office communication.

Applicants concurrently file herewith an Information Disclosure Statement to include other references of record in related Application No. 09/956,925 (Our Ref: Q66253) and in Application No. 09/956,924 (Our Ref: Q66252).

Objections to the Specification

(A) The Examiner refers to the trademark "SIROCCO", and requests that it should be capitalized and accompanied by generic terminology.

Applicants respectfully traverse the objection.

A Sirocco fan is well known in the art as a centrifugal fan having multiple narrow blades curved forward and mounted at a periphery of a braced, open drum. Applicants submit that a Sirocco fan is not a trademark, does not need to be capitalized, and generic terminology is unnecessary since this type of fan is very well known.

(B) The Examiner objects to the use of "means-plus-function" language to define features of Applicants' invention, because the specification is said to not clearly identify corresponding structure which performs the function recited in the claimed element.

Applicants respond as follows.

Applicants amend the specification to identify corresponding structure for performing the claimed functions. For the claimed "means for judging the state of breathing of the user under a predetermined judgment condition when breath-synchronized operation is performed, based on a signal from the sensor", Applicants identify the corresponding structure as controller 59. See page 21, lines 1-6 (the controller 59 detects inhalation by use of the pressure sensor 53; calculates an averaged breathing cycle time from an average value of the past two to five breathing cycle times; regards one-third of the averaged breathing cycle time as an inhalation period; and opens the electromagnetic valve 47 over the inhalation period to thereby supply oxygen-enriched gas to the patient).

With respect to the "means for supplying the oxygen or oxygen-enriched gas to the user over a predetermined period when the state of breathing of the user cannot be accurately determined", Applicants identify corresponding structure as the controller 59 and an electromagnetic valve 47. See last paragraph on page 21 and the first paragraph on page 22: "When start of inhalation cannot be detected over, for example, 10 seconds or more, the controller 59 judges that the patient or a device such as the pressure sensor 53 has come into an anomalous state...In step 120, because of the anomalous state having arisen, the controller 59 drives the electromagnetic valve 47 to open the supply passage 29 so as to supply oxygen-

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enriched gas over about 4 seconds. Subsequently, the controller 59 suspends the present processing.)

Accordingly, Applicants respectfully request reconsideration and withdrawal of the objections to the specification.

Claim Objections

(A) The Examiner objected to the language "represents a flow rate" as claimed in claims 9, 10 and 11.

Applicants respond as follows.

In accordance with the Examiner's suggestion, Applicants amend the claims to more clearly recite a continuous base flow rate that is the flow rate at which the oxygen apparatus can supply oxygen-enriched gas continuously.

(B) The Examiner objected to claim 1 for the reason that the specification is said to not specify corresponding structure for the means-plus-function language.

In response, the corresponding structure has been identified as discussed above.

(C) The Examiner objects to the inconsistency in reciting "predetermined judgement period" in Claim 3 and reciting "predetermined period" in Claim 4.

Applicants respond as follows.

The Examiner suggests amending claims 3 and 4 to recite "predetermined period". However, Applicants intended different meanings between "predetermined judgment condition" and "predetermined period".

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The "predetermined period" in claim 1 is the period during which oxygen or oxygen-enriched gas is supplied to the user when the state of breathing cannot be accurately determined. Claims 3 and 4 do not refer to a "predetermined period" but rather a "period" during which the state of breathing of the user cannot be accurately determined in order to trigger the "predetermined judgment condition". It is believed that the language is clear, and that the claims fully comply with 35 U.S.C. § 112.

Claim Rejection Under 35 U.S.C. § 102

Claims 1, 2, 6 and 9-16 were rejected under 35 U.S.C. § 102(b) as being anticipated by Sato et al. (U.S. Patent 4,681,099).

Sato et al. was cited as disclosing, e.g., an oxygen enriching device substantially as claimed, including a sensor for detecting the state of breathing of a user in the form of a thermocouple, judging means in the form of a control unit, which translates signals from the sensor to judge the state of breathing based on a predetermined judgment condition, with the supplying means supplying the oxygen-enriched gas to the user when the state of breathing cannot be accurately determined.

Applicants respond as follows.

Sato et al. (paragraph bridging columns 12-13) describes that when the duration of inhalation or exhalation phase falls outside of the normal duration range (to be separately set), the breath-synchronizing solenoid valve 24 is turned on so as to supply oxygen-enriched gas to the patient.

The "normal duration range" in Sato et al. is based on the average of six (6) consecutive sound inhalation durations at the start of operation (column 12, lines 41-57). That is, if the duration of inhalation or exhalation phase falls outside the normal duration range, which is separately set, then oxygen-enriched gas is continuously supplied to the patient.

Claim 1 has been amended to clearly set out the difference between the present invention and Sato et al.

Particularly, the formation of the claimed supplying means, not met by Sato et al, is to supply oxygen or oxygen-enriched gas supplied to the user over a predetermined period (nominally, four (4) seconds) when no breathing is detected (See page 4, lines 8-11 of the specification). Consequently, the present invention quickly comes to the aid of a patient when there is either a breathing anomaly or a malfunction in the sensor (See page 4, lines 12-14 of the specification), whereas that is not the case in Sato et al. That is, the apparatus of Sato et al does not perform the identical function specified in the claim (i.e., supplying oxygen or oxygen-enriched gas to the user over a predetermined period when no breathing is detected), and therefore does not anticipate the present claims.¹

Different embodiments of the invention are claimed. For example, Claim 9, depending from Claim 1, recites that oxygen-enriched gas is stopped during the exhalation period of the breathing cycle. Claim 10, depending from Claim 1, recites that oxygen-enriched gas is supplied during the exhalation period of a breathing cycle at a flow rate less than the continuous base flow

¹ Application of a prior art reference to a means-plus-function limitation requires that the prior art element perform the identical function specified in the claim. MPEP § 2182, pg. 2100-220 (February 2003).

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rate, which embodiment is not disclosed or taught by Sato et al. Therefore, Applicants separately traverse the rejection of Claim 10.

For the foregoing reasons, Sato et al. does not anticipate each and every element of Applicants' claimed invention, and withdrawal of the foregoing rejection under 35 U.S.C. § 102(b) is respectfully requested.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 3-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sato et al, and Claims 7 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. in view of Salter (U.S. Patent 5,137,017).

Applicants respectfully submit that these §103 rejections of Claims 3-5 and 7-8 should be reconsidered and withdrawn for the same reasons that the §102(b) rejection of Claims 1, 2, 6 and 9-16 should be reconsidered and withdrawn.

Conclusion

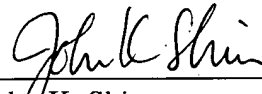
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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